

Attorney's Docket: 2003DE409

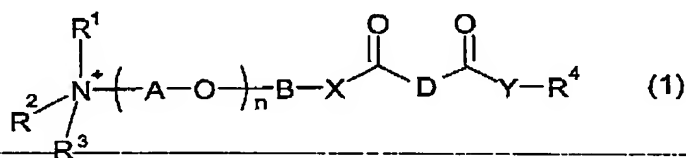
Serial No.: 10/783,407

Art Unit 1712

Response to Restriction Requirement, Dated 06/27/2006

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Previously Presented) A method for inhibiting corrosion and gas hydrate formation, said method comprising adding to a mixture of hydrocarbons and water a compound of formula (1)



where

R^1, R^2 are each independently C_1 - to C_{22} -alkyl, C_2 - to C_{22} -alkenyl, C_6 - to C_{30} -aryl or C_7 - to C_{30} -alkylaryl,

R^3 is C_1 - to C_{22} -alkyl, C_2 - to C_{22} -alkenyl, C_6 - to C_{30} -aryl or C_7 - to C_{30} -alkylaryl, $-\text{CHR}^5-\text{COO}^-$ or $-\text{O}^-$,

R^4 is M, hydrogen or an organic radical having from 1 to 100 carbon atoms,

A is a C_2 - to C_4 -alkylene group,

B is a C_1 - to C_{10} -alkylene group,

D is an organic radical having from 1 to 600 carbon atoms,

X, Y are each independently O or NR^6 ,

R^5, R^6 are each independently hydrogen, C_1 - to C_{22} -alkyl, C_2 - to C_{22} -alkenyl, C_6 - to C_{30} -aryl or C_7 - to C_{30} -alkylaryl, and

M is a cation

n is a number from 1 to 30.

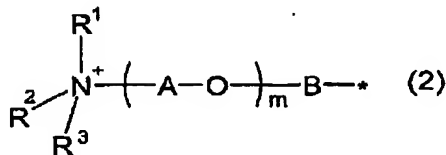
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- 2.(Previously Presented) The method of claim 1, wherein A is an ethylene or propylene group.
- 3.(Previously Presented) The method of claim 1, wherein B is a C₂- to C₄-alkylene group.
- 4.(Previously Presented) The method of claim 1, wherein R¹ and R² are each independently an alkyl or alkenyl group of from 2 to 14 carbon atoms.
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- 5.(Previously Presented) The method of claim 1, wherein R³ is an alkyl or alkenyl group having from 1 to 12 carbon atoms.
- 6.(Previously Presented) The method of claim 1, wherein R⁵ and R⁶ are hydrogen.
- 7.(Previously Presented) The method of claim 1, wherein n is a number in the range from 1 to 10.
- 8.(Currently Amended) The method of claim 1, wherein R⁴ is a radical of the formula (2)



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where

R^1, R^2 are each independently C_1 - to C_{22} -alkyl, C_2 - to C_{22} -alkenyl, C_6 - to C_{30} -aryl or C_7 - to C_{30} -alkylaryl.

R^3 is C_1 - to C_{22} -alkyl, C_2 - to C_{22} -alkenyl, C_6 - to C_{30} -aryl or C_7 - to C_{30} -alkylaryl, $-\text{CHR}^5-\text{COO}^-$ or $-\text{O}^-$.

A is a C_2 - to C_4 -alkylene group.

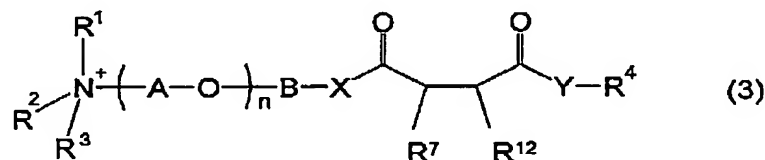
B is a C_1 - to C_{10} -alkylene group.

R^1, R^2, R^3, A and B are each as defined in claim 1, and m , independently of n , is a number in the range from 0 to 30.

9.(Previously Presented) The method of claim 1, wherein D is a C_2 - to C_{50} -alkylene or C_2 - to C_{50} -alkenylene group.

10.(Currently Amended) The method of claim 1, wherein D is derived from a substituted succinic acid ~~derivative~~ derivatives having from 10 to 100 carbon atoms.

11.(Currently Amended) The method of claim 1, wherein D is a radical of the formula (3)



where

R^7 and R^{12} are each either hydrogen or a C_2 - to C_{100} -alkyl or C_2 - to C_{100} -alkenyl

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radical which is obtainable as an oligomer of C₂- to C₈-alkenes and may be straight-chain or branched, with the proviso that exactly one of the R⁷ and R¹² radicals is hydrogen, and

R¹, R² are each independently C₁- to C₂₂-alkyl, C₂- to C₂₂-alkenyl, C₆- to C₃₀-aryl or C₇- to C₃₀-alkylaryl.

R³ is C₁- to C₂₂-alkyl, C₂- to C₂₂-alkenyl, C₆- to C₃₀-aryl or C₇- to C₃₀-alkylaryl, -CHR⁵-COO⁻ or -O⁻.

R⁴ is M, hydrogen or an organic radical having from 1 to 100 carbon atoms.

A is a C₂- to C₄-alkylene group.

B is a C₁- to C₁₀-alkylene group.

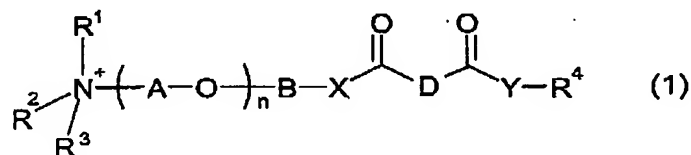
X, Y are each independently O or NR⁶.

n is a number from 1 to 30.

R¹, R², R³, R⁴, A, B, X, Y and n are each as defined in claim 1.

12.(Withdrawn)

A compound of the formula (1)



where

R¹, R² are each independently C₁- to C₂₂-alkyl, C₂- to C₂₂-alkenyl, C₆- to C₃₀-aryl or C₇- to C₃₀-alkylaryl,

R³ is C₁- to C₂₂-alkyl, C₂- to C₂₂-alkenyl, C₆- to C₃₀-aryl or C₇- to C₃₀-alkylaryl, -CHR⁵-COO⁻ or -O⁻,

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- R⁴ is M, hydrogen or an organic radical having from 1 to 100 carbon atoms,
A is a C₂- to C₄-alkylene group,
B is a C₁- to C₁₀-alkylene group,
D is an organic radical having from 1 to 600 carbon atoms,
X, Y are each independently O or NR⁶,
R⁵, R⁶ are each independently hydrogen, C₁- to C₂₂-alkyl, C₂- to C₂₂-alkenyl, C₆- to C₃₀-aryl or C₇- to C₃₀-alkylaryl, and
M is a cation
-
- n is a number from 1 to 30.

13.(Previously Presented) The method of claim 1, wherein R⁴ contains heteroatoms.

14.(Previously Presented) The method of claim 1, wherein D contains heteroatoms.

15.(Withdrawn) The compound of claim 12, wherein R⁴ contains heteroatoms.

16.(Withdrawn) The compound of claim 12, wherein D contains heteroatoms.